WHAT IS CLAIMED IS:

1. A system for controlling a process for perforating a flexible web of cigarette tipping paper, comprising:

a supply spindle of the flexible web, said supply spindle being mounted for powered angular rotation;

a take-up spindle for receiving a portion of the flexible web from the supply spindle, said take-up spindle being mounted for powered angular rotation;

a laser beam generator;

at least one multi-faceted mirror positioned in the path of a laser beam emitted from said laser beam generator, said at least one multi-faceted mirror being driven by a drive unit to rotate, and said at least one rotating multi-faceted mirror dividing said laser beam into a plurality of output beams that are scanned across additional downstream optics and focused to burn a plurality of holes in said flexible web; and

a control device that controls the angular rotations of said supply spindle and said take-up spindle, controls said drive unit to rotate said multi-faceted mirror, and controls power supplied to said laser beam generator in response to sensor inputs and control output.

2. The system according to claim 1, wherein said control device comprises:

a digital motion controller, said digital motion controller providing drive signals to and receiving feedback signals from an unwind motor and a rewind motor, said unwind motor driving said supply spindle and said rewind motor driving said take-up spindle, and

a programmable logic controller, said programmable logic controller providing an interface for receiving signals from an operator and from other machine controls.

3. The system according to claim 3, wherein said control device further includes an analog control, said analog control providing command signals to and receiving feedback signals from said drive unit to rotate said at least one multi-faceted mirror and laser controls for said laser beam generator.

4. A laser beam control system, comprising:

a focusing lens, said focusing lens focusing the laser beam onto a multiple facet mirror;

said multiple facet mirror dividing the laser beam into a plurality of output beams that are then passed through a plurality of collimating lenses; and

a plurality of shutter assemblies positioned in the paths of said output beams received from said collimating lenses, said shutter assemblies including portions that can be selectively adjusted out of or into the paths of the output beams to allow all or a portion of each of the output beams to pass through apertures in the shutter assemblies to additional downstream optics that direct and focus the output beams onto a workpiece to produce holes in the workpiece.

5. The laser beam control system according to claim 4, wherein:

said shutter assemblies are connected to actuators that are adapted to move the shutter assemblies such that said apertures are aligned with said output beams or moved out of the paths of said output beams.

6. The laser beam control system according to claim 5, wherein:

said portions of said shutter assemblies comprise carbon tabs that are optionally adjustable between positions partially blocking said apertures from passage of said output beams and positions that do not interfere with said output beams.

7. The laser beam control system according to claim 4, wherein:

said multiple facet mirror is rotatable such that said output beams are scanned across said collimating lenses and each output beam passes through said apertures for a period of time that is a function of the number of said facets, the speed of rotation of said multiple facet mirror, and the amount that said portions of said shutter assemblies block passage of said output beams through said apertures.

8. The laser beam control system according to claim 7, wherein said portions of said shutter assemblies are selectively adjustable to positions that partially block said apertures to reduce the amount of time said output beams can pass through said apertures.

9. The laser beam control system according to claim 4, wherein said shutter assemblies are selectively movable between a first position wherein said apertures are aligned with said output beams and a second position wherein the shutter assemblies block said output beams.

10. The laser beam control system according to claim 9, wherein said output beams are absorbed by carbon portions of said shutter assemblies when said shutter assemblies are in said second positions.

11. The laser beam control system according to claim 10, wherein said shutter assemblies further include metal portions in contact with said carbon portions that are adapted to receive heat from said carbon portions and dissipate said heat through a cooling medium circulated through said metal portions.

12. The laser beam control system according to claim 11, wherein said metal portions are aluminum.

13. A system for controlling a laser beam used to perforate a flexible web, comprising:

an optical arrangement that directs a laser beam to a multi-faceted mirror, said optical arrangement including an adjustable optic selected from an adjustable beam expander and an adjustable beam concentrator; and

a focusing lens that receives the laser beam as adjusted in size by said adjustable optic and focuses said beam onto said multi-faceted mirror, said multi-faceted mirror rotating and dividing said beam into a plurality of output beams that are then directed and focused onto said flexible web to perforate holes in said web.

14. The system according to claim 13, wherein the flexible web is a web of cigarette tipping paper.

15. The system according to claim 13, wherein said holes are perforated in said flexible web in a range of from 10 holes per inch to 115 holes per inch.

16. A method for controlling a laser beam used to perforate a flexible web of cigarette tipping paper, comprising:

directing said laser beam through one of a beam expander or a beam contractor to adjust the size of the laser beam;

reflecting the adjusted laser beam off a rotating, multi-faceted mirror such that said laser beam is divided into a plurality of laser output beams;

scanning said laser output beams across an array of collimating lenses; and

directing said scanning laser output beams after said array of collimating lenses to a plurality of focusing lenses arranged adjacent said flexible web of cigarette paper, said focusing lenses focusing said laser output beams onto said flexible web to burn holes in said flexible web.

17. The method according to claim 14, wherein said laser output beams are further controlled before passing to said focusing lenses by a plurality of shutter assemblies,

said shutter assemblies each including an aperture and being selectively moved between a position wherein said aperture is aligned with one of said laser output beams and a position wherein said shutter assembly blocks passage of said one of said laser output beams.

18. The method according to claim 17, wherein said shutter assemblies further include portions that are selectively adjusted to partially block said apertures when said apertures are aligned with said laser output beams, wherein the period of time that said laser output beams are directed to said focusing lenses is reduced.

19. A system for removing dust created by laser perforation of paper, comprising:

an optical arrangement that controls and directs a laser beam, said optical arrangement including focusing lenses that focus the laser beam to burn holes in the paper;

a roller over which said paper is passed to position said paper relative to said focusing lenses; and

one or more blades mounted on an adjustable holder, said adjustable holder being selectively adjusted from a position wherein said one or more blades are spaced from said roller to a position wherein said one or more blades are pressed against said roller.

20. The system according to claim 19, wherein a plurality of said blades are mounted end-to-end along a blade holder and said blade holder is mounted on said pivoting holder.

21. The system according to claim 20, wherein said adjustable holder is rotated about a pivot axis to bring said blades into contact with said roller with tips of the blades being tangent to the outer circumferential surface of said roller.

22. A method for perforating a flexible web of paper, comprising:

feeding said flexible web of paper from a supply spindle of said paper, across a burn table region having a plurality of laser beam focusing lenses, and onto a take-up spindle; and

directing a laser beam onto a rotating, multi-faceted mirror such that said laser beam is divided into a plurality of laser output beams that are scanned across downstream optics that control and direct said laser output beams before said laser output beams are focused by said focusing lenses to burn holes in said flexible web of paper.

23. The method according to claim 22, wherein said holes are burned in cigarette tipping paper.

24. The method according to claim 22, wherein said holes are burned in said flexible web of paper at a rate within the range from 10 holes per inch of said flexible web to 115 holes per inch of said flexible web.